Atty's Docket: 101195-24
Eckhart et al.,

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicants request that this be considered a petition therefore. Please charge the required fee to Deposit Account No. 14-1263.

ADDITIONAL FEES

Please charge any further insufficiency of fees, or credit any excess to Deposit Account No. 14-1263.

REMARKS

Applicants gratefully acknowledge withdrawal of the prior restriction requirement.

Examiner has now issued a two-way restriction and an election of species (i.e., sequence restriction).

Elections

With respect to the restriction requirement, Applicants provisionally elect with traverse,

GROUP I, drawn to chimeric oligonucleotides having a phosphorous-containing backbone.

With respect to the species, Applicants provisionally elect with traverse, the chimeric oligonucleotide described by SEQ ID NO: 16.

Upon allowance of a proper independent claim, Applicants reserve to the right to rejoin non-elected species in proper dependent format.

Arguments in Support of Traversal the Restrictions

Applicants respectfully request consideration of amended claim 1 in the context of the remarks below. In brief, claim 1 has been amended to recite the fact that the oligos all possess a nucleotide sequence that is antisense to the telomerase RNA.

A. Correct Legal Standard was not Applied

Applicants suggest that the Examiner has not applied the correct legal standard in determining the propriety of the restriction requirement. The present application is a national stage of a PCT application. As such, 35 CFR § 1.475 requires applying the PCT unity of invention standard when assessing the joinder of claims in national stage applications. A key factor in implementing PCT guidelines is recognizing that the PCT gives considerable weight to the similarities between the compounds, not just the differences.

Respectfully, Examiner has only considered the differences between the oligos and then concludes that different searches would be required; the oligos fall into different classes; and represent distinct inventions. This is not a proper analysis under PCT rules.

The restriction of alternatives based on a Markush group presents a special case according to PCT practice. The instant restriction of claim 1 is improper because it is not consistent with PCT Administrative Instructions (PCTAI) relating to the unity of invention.

The PCTAI specifies that the unity of invention requirement among alternatives in a Markush group, is met when the alternatives are "of a similar nature." Part I (f)(i). The similarity of nature is satisfied where all alternatives share:

- a common property; and
- a common structural element, or all alternatives belong to a recognized class of chemical compounds in the art.

Further, paragraph (f)(ii) expressly states that the common structural element shared by the claimed alternatives may occupy a large portion of the structures, or a smaller portion if distinct.

B. The chimeric oligonucleotides

The claimed chimeric oligos share a common property that is achieved by each oligo having a common architecture. Specifically, the 5′ segments of each chimeric oligonucleotide demonstrates non-sequence specific binding to the telomerase's primer binding site. This site is part of the protein *per se*, and not the associated nucleic acid component. See page 5, 2nd paragraph. However, the 3′ segment of each oligo does indeed binds to the telomerase associated RNA. *Id.*, 4th and 5th paragraph.

The result is that telomerase activity is inhibited by attacking two independent sites with the same oligonucleotide. In addition, oligonucleotide represent a recognized class of compounds, even if their backbone linkages are different. Thus, according to PCT guidelines, this is not a barrier to examining the Markush group in claim 1.

In addition each oligo possesses an RNA binding motif capable of binding to the same telomerase associated RNA.

Thus, each oligo has a sequence complementary to TTAGGG, or portion thereof. In other words, all oligonucleotides of claim 1 also must share this structural element.

C. Conclusion

Thus, as disclosed and claimed, these oligos are all inhibitors of telomerase, ***and each one inhibits the telomerase by the same mechanism.*** Thus, whatever structural distinctions exist between Examiner's restricted groups, they are not so distinct to alter the properties and function of the oligos.

It is also critical to consider that carrying out these functions require the that 3′ ends of the oligos comprise the same nucleotide sequence, or portion thereof.

According to PCTAI this demonstrates sufficient functional and structural similarity to satisfy the unity of invention standard.

Therefore, withdrawal of the restriction is respectfully requested because Groups I and II should be examined together under PCT rules.

Respectfully Submitted,

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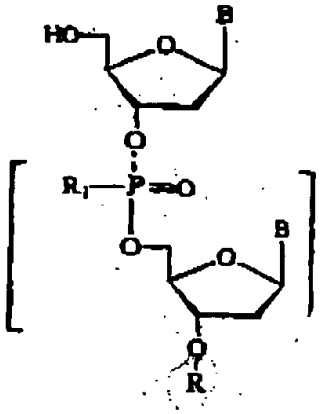
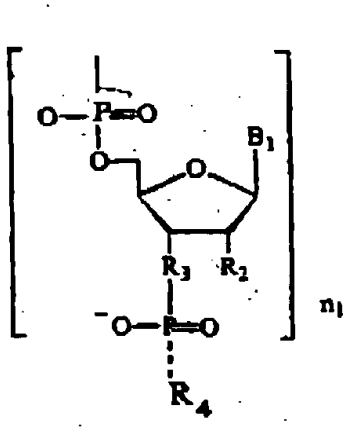
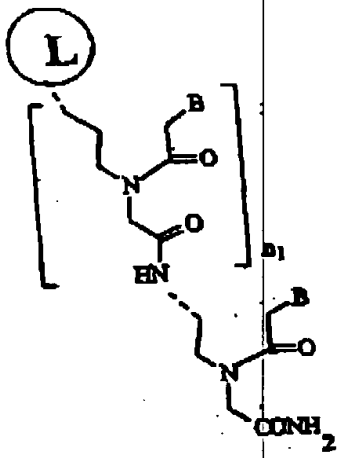
Mark Up of Amended Claim 1

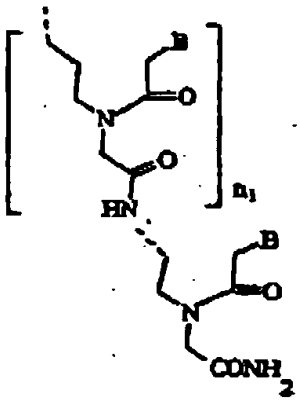
1. Chimeric oligonucleotides of a general formula I for binding telomerase, comprising,



wherein R is selected from the group consisting of







wherein

n is at least 10 and not more than 20,

R_1 is selected from the group consisting of S, CH_3, and O,

B is selected from the group consisting of thymine, cytosine, adenine, and guanine,

n_1 is at least 3 and not more than 17,

B_1 is selected from the group consisting of thymine, cytosine, adenine, guanine, 5-propyluracil, and 5-propylcytosine,

R_2 is selected from the group consisting of H, F, NH_2, O-alkyl ($C_1 - C_5$), O-allyl, and O-methoxyethoxy,

R_3 is selected from the group consisting of NH and O, wherein if R_3 is NH, R_2 must not be selected from the group consisting of NH_2, O-alkyl ($C_1 - C_5$), O-allyl, and O-methoxyethoxy,

R_4 is selected from the group consisting of 2',3'-dideoxy-3'-fluoroguanosine, 2',3'-dideoxy-3'-azidoguanosine, 2',3'-dideoxy-3'-aminoguanosine, 2',3'-epoxyguanosine, acyclovir, ganeyclovir, 2'-deoxyadenosine, 2'-deoxyguanosine, 2'-deoxycytidine, and 2'-deoxythymidine,

L is selected from the group consisting of $-(PO_2)-OCH_2-COH-CH_2-NH-$ and $-(PO_2)-OCH_2-CH(CH_2COOH)-(CH_2)_4NH-$,

and wherein each chimeric oligonucleotide comprises an antisense sequence 3'–CAAUCCCAAUC–5', or portion thereof.